DOCUMENT RESUME

ED 101 268 CG 009 635

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TITLE The Use of Drugs to Calm Kids.
PUB DATE [74]
NOTE 19p.; Paper presented at New York State Federation of Chapters of the Council for Exceptional Children (Buffalo, New York, November 1974)

EDRS PRICE MF-$0.76 HC-$1.58 PLUS POSTAGE
DESCRIPTORS *Behavior Problems; *Drug Therapy; Elementary Education; *Elementary School Students; *Hyperactivity; Literature Reviews; Primary Education; School Role; Speeches; State of the Art Reviews

ABSTRACT

The author, through an extensive review of the literature, describes the present state of knowledge regarding hyperkinetic syndrome. The review of the literature is organized into several categories: (1) hyperactive child syndrome, (2) the child's behavior, (3) treatment for the syndrome, and (4) the role of schools and school personnel. Suggestions pertaining to administration of drugs to treat hyperkinesis and to appropriate responses of school personnel are offered. The author concludes that hyperkinetic child syndrome is a complex condition whose problems persist long after the hyperactivity cases. Examples of these lingering problems are low self-esteem, despair, parental rejection, socially inappropriate behavior, and a bad reputation. The author suggests a team, consisting of physician, parent, teacher, and siblings, organized to respond to these problems. Situations can be organized in the school, for example, to raise self-esteem, to alleviate despair and anger, and to provide attention to the hyperkinetic child for appropriate, socially-acceptable behavior. (Author/BW)

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THE USE OF DRUGS TO CALM KIDS*

by

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*Based on a paper presented before the New York State Federation of Chapters of the Council for Exceptional Children, Buffalo, New York, November 8, 1974.

*The author is grateful to Carolyn Parks for help in reviewing the literature.

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The Use of Drugs to Calm Kids

A wise man once said that when making a presentation, one should state what one will say, say it, and then remind the audience of what was just said. It is my intention to follow that advice and I, therefore, will now let you know what I will later say. I will describe the hyperactive child syndrome, the hyperactive child's behavior, recommended responses to hyperkinesis, the role of schools and schoolmen as regards this condition, and then summarize what I have stated.

Hyperactive Child Syndrome

Hyperkinesis has been defined as "motor activity in excess of the range normal for age and sex" and as helplessness in the face of an impulse in children seemingly born without brakes.[1] Elsewhere hyperactivity has been called a "chronic, sustained, excessive level of motor activity which is the cause of significant complaint both at home and at school."[2] However, Arnold in an article entitled "Is This Label Necessary?" cautions:

> When hyperkinetic is used as a diagnostic term, it refers to a syndrome, a constellation of symptoms, any combination of which may be present in a given child... A child may fit the syndrome even if he is not overactive, and some children are overactive without fitting into the syndrome. Overactivity may be a manifestation of many things besides hyperkinetic syndrome.[3]

Hyperactivity, in fact, has many names: minimal brain dysfunction, neurological handicap, hyperkinetic syndrome, and hyperkinesis. To complicate matters further, Kent Jordan writes about four distinct types of hyperactivity. These are:[4]

1. Maternal Deprivation Hyperactivity - "In normal early emotional development, children learn to inhibit motor behavior which is unacceptable to their parents. They develop inner emotional controls in order to please their parents and receive pleasur-

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able attention and love. Most one and one-half to two year old toddlers are somewhat hyperactive. They essentially stop being hyperactive by the age of three or four because of receiving scoldings for getting into things, and receiving love when they control themselves. The child who doesn't receive enough attention and love from his parents won't develop the motivation to try to control himself. He won't learn to inhibit his behavior because nobody has cared enough about him for him to be concerned about pleasing them."[5]

2. Psychoactive Hyperactivity - "If a child is born with little drive to form close relationships with other people, he won't be very concerned about receiving love and affection. He won't learn to inhibit himself like a normal child, because he won't care enough about his parents to try to please them."[6]

3. Situational Tension Hyperactivity - "If the home or school environment exerts pressures on a child to do things (or not do things) that are beyond his capacity, he will become anxious... Ninety per cent of six-year-old boys may be able to conform and perform the way the school wants them to. But the child in question may be among the 10 per cent who have a different, slower developmental 'time table'... Instead of sitting quietly and concentrating on his studies, this child may become hyperactive and distractible, as a reaction to the pressures to achieve beyond his capacity. This same developmentally delayed child may have parents who have high expectations that he be very quiet, obedient, and responsible at home. These home pressures may have the opposite effect from those desired. He may become hyperactive, distractibly forgetful, and impulsively irresponsible at home."[7]

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4. Neurotic Tension Hyperactivity - Should the above excessive environmental pressures continue to impinge on the child for a number of years, and the child continues to try to conform to these pressures, he may eventually become neurotic. He will begin to 'internalize' these pressures. He will apply these pressures to himself, independent of the environmental situation.[8]

Hyperactive Child's Behavior

How can the hyperactive syndrome be identified? Well, the first fact to keep in mind is that hyperkinesis is 10 times more common in boys than in girls.[9,10] Secondly, whereas 4 per cent of children are so classified, only 2 per cent actually are hyperactive.[11] With these thoughts in mind then, the hyperkinetic syndrome can best be described behaviorally by considering four categories:[12]

1. Motor Activity - The hyperactive child may be overactive, fidgety, constantly moving, clumsy, and forever climbing and jumping.
2. Behavior - The hyperkinetic child may be disruptive, antisocial, impulsive, destructive, bothersome to others, pesty, cruel, hostile, aggressive, or often have temper tantrums.
3. Psychologically - The hyperkinetic child may have a short attention span, be distractible, possess a perceptual motor handicap, a low tolerance for frustration, difficulty with abstraction, or difficulty with numerical concepts.
4. Neurologically - The hyperkinetic child may have speech abnormalities, strabismus or visual convergence difficulties, tremors or broad based gait, truncal swaying, an inability to hop or stand on one leg, poor "finger to nose" ability, or muscular spasms called clonus.

Further, at home parents have often observed that "even as a small

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child he was into everything, he would never sit still, not even in front of the TV, he had frequent temper tantrums; he had no patience to stick with a project or game; he hit and teased the other children and thus had few friends, if any, and even his brothers and sisters would not play with him; he could not be left with a baby sitter because he was so unmanageable; and he broke all his toys in no time and even frequently damaged the furniture."[13] "At school, the child continues to fidget constantly, jumping from one project to another. He seems constantly distracted and may talk to, touch, punch or pull the hair or clothing of his neighbor, rather than paying attention to his classwork. He may leave the site of the reading lesson without permission, and he may be completely unresponsive to discipline. He usually has difficulty academically although his intelligence may be within normal range."[14]

If one looks closely at the signs of hyperkinesis just outlined, it becomes apparent that the diagnosis of hyperactivity is a difficult one. Any one or several of the signs mentioned can be exhibited by children not hyperactive. In the diagnosis of hyperactive syndrome, the combination of many of these signs is important. It is wise to remember that the term syndrome is defined by Webster's New World Dictionary as "a number of symptoms occurring together and characterizing a specific disease."[15] The difficulty of diagnosing hyperactive syndrome is dramatized by Hager's comment that there is 'the view that the whole concept of the hyperkinetic syndrome should be severely challenged."[16]

Continuing with our discussion regarding the difficulty in diagnosing hyperkinetic syndrome, several interesting points should be mentioned. Firstly, while it is recommended that a child suspected of being hyperkinetic have administered a neurological workup for him,[17] "most electroencephalographers agree that no specific electroencephalogram (EEG) ab-

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normality is diagnostic of minimal brain dysfunction."[13] Arnold concurs with the difficulty in identifying hyperkinetic syndrome with neurological workup when he states:

> 'Soft' neurological findings, such as poor coordination (fine or gross), left-right confusion, incomplete or mixed dominance, motor overflow, choreiform movements, strabismus, articulation deficits, and congenital abnormalities may help establish the diagnosis. However, these manifestations of the syndrome, like the others mentioned earlier, are each in themselves neither sufficient nor necessary for the diagnosis. For example, some clearly hyperkinetic children boast superb coordination while some poorly coordinated children do not deserve the diagnosis of minimal brain dysfunction.[19]

Arnold continues by cautioning that the labeling of a child hyperkinetic might result in his becoming hyperkinetic, though the label might have originally been inaccurate. He quotes the following poem to make this point:[20]

> If I say that I am shy
> It seems you always pass me by.
> Funny how it seems to be
> Self-fulfilling prophecy.
>
> If I say you're a bad person,
> I can almost see you worsen,
> Funny how my words for you
> Have a way of coming true.
>
> If you say that I am selfish
> I feel hard as any shellfish.
> I can almost guarantee
> You won't get a thing from me.
>
> Strange how your words for me
> Make me into what you see.
> Label, label there's no way
> To win this game today.

The role of the school and, in particular, the classroom teacher in aiding to diagnose hyperkinetic syndrome is most important. In a study of hyperkinetic children, Sleator and von Neumann found that only 10 of

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the 46 hyperkinetic children they studied could have been diagnosed as such by an office visit to a physician alone.[21] These researchers stated that 'all of the other 36 children behaved in a cooperative, controlled manner during the physician's examination, yet interview data from parents, teacher rating scales, and subsequent behavior when visiting the Center left no doubt that they were hyperkinetic... No refinement of examination nor any test currently available will make the diagnosis.'[22] In a study of teachers' knowledge and attitudes toward a drug prescribed for hyperkinetic children (Ritalin), Robin and Bosco found that although 'forty per cent of the teachers reported that they recommend consultation with a physician for children who appear hyperactive,' direct communication between teacher and physician is infrequent.[23] These researchers concluded that not only could teachers help in the diagnosis of hyperkinesis but they could aid in the evaluation of any treatment that is attempted.

There are those, however, that feel the educator has no role in the diagnosis of hyperkinetic syndrome nor the evaluation of its treatment. The opposing viewpoints have been succinctly stated by Hager:

> The great debate about what role educators should play in the diagnosis of hyperkinetic children involves a range of views. One is that the school administrators, school nurses, teachers, and other school professionals do not possess the skills necessary to diagnose children as hyperkinetic and thus should not be involved in the diagnostic process. Another opinion is that the school system is usually the best place to identify hyperkinetic children, because teachers are very adept in recognizing the symptoms characterized by hyperkinetic children.[24]

In any case, Harlin's suggestion of presenting to the physician be-

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haviors the child has exhibited, rather than generalized statements is a wise one.[25] For instance, rather than stating that the child is a brat, it would be more helpful for a teacher to state that the child hit another child at 10:30, walked about the classroom during a reading lesson at 10:47, etc... In this manner, the physician can obtain a picture of the child's behavior only obtainable from either teachers or parents. This picture will be helpful to the physician in diagnosing hyperkinetic syndrome.

As an aid in diagnosis, physicians should obtain a medical history of the child and the pregnancy states of the mother. Dr. Gerhard Nellhaus reports a study of 91 neurologically hyperactive children seen by him in private consultation. "With 22 of the 91 children, the mothers had histories of fetal losses, often with the pregnancy prior to the birth[26] of the hyperkinetic child. "In fact, these 22 mothers had a history of a total of 35 fetal losses. They also had a high percentage of prematurity and of various other problems during pregnancy, but not at the time of birth."[27]

Treatment of Hyperkinetic Syndrome

Regarding the treatment of hyperkinetic syndrome, drug therapy has received the most publicity. The research in this area is quite abundant. Huessy and Wright report of the effectiveness of an antidepressant (imipramine) in treating hyperkinetic children.[28] Fish reports the effective use of stimulant drugs with some hyperactive children.[29] In a study of 19 hyperactive boys ranging in age from 6 to 12 years, Waizer and his colleagues assessed the effectiveness of imipramine in drug therapy.[30] They concluded that this antidepressant was useful in reducing hyperactivity. Teachers in this study rated the children improved on hyperactivity, defiance, sociability, and inattentiveness.

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Therefore, Waizer concludes that rather than an amphetamine with its potential for drug abuse, the drug of choice should be imipramine, an antidepressant. Waizer did note, however, that 78 per cent of the children he studied did experience a weight loss and other symptoms such as insomnia, anorexia, and mild drowsiness were reported.

Joining those recommending the administering of amphetamines to hyperkinetic children is Marcel Kinsbourne. Kinsbourne sees amphetamines helping the child to control his behavior as he wishes; without them he is at the mercy of every passing stimulus."[31] He does, however, note possible side effects of amphetamine use to treat hyperkinesis. Among these side effects are loss of appetite, failure to sleep well, slower growth, irritability, withdrawal behavior, tenseness, and possible paranoia.[32]

Recognizing the effect of stimulant medication upon height and weight; i.e. a suppression of growth; Safer cautions physicians employing such treatment to constantly monitor the patient's height and weight.[33] However, as pointed out by Solomons,[34] physicians do not often adequately monitor their hyperkinetic patients. Solomon found that only 55 per cent of these patients had three or more contacts with their physicians over a 12 month period of time. In fact, over 25 per cent of the parents of these patients were allowed to alter dosages and the frequency with which the medication was administered without consulting their physician.

In further support of the use of stimulant drugs to treat hyperkinesis, two researchers summarized the literature in this area as follows:

> Controlled studies employing ratings by parents, teachers, and medical or psychologic professionals consistently suggest that stimulant drugs improve both behavior and performance... These experimental studies show that drug-treated children perform better than placebo-treated controls on certain subscales of standard intelligence tests (e.g. WISC digit symbol), maze trac-

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> ing and figure drawing, achievement tests, paired associate learning tasks, and portions of the Frostig Developmental Test of Visual Perception... Definite drug-placebo differences on various laboratory tasks and reaction time have also been found. On vigilance tasks, such as detecting the appearance of certain letters in a lengthy series of presentations, fewer errors of omission and commission occur in stimulant-drug groups, and response time is faster.... Finally, reaction time and reaction-time variability are reduced by stimulant drugs... these effects are enhanced as the experiments proceed, suggesting strongly that motivation or attention is the factor primarily influenced by drugs.[35]

Regarding the paradoxical effects of stimulant drugs upon hyperactive children; i.e. rather than stimulate these children there appears to be a calming reaction; as noted by Rappaport and his associates,[36] it has been suggested that these drugs do "not directly affect the energy expenditures of the child but subtly alters attentional mechanisms so that hyperactive children respond more appropriately to the characteristics of their setting."[37]

Though some have cautioned that stimulant drug therapy for hyperkinesis could lead to later abuse of these drugs, Kinsbourne states that "if somebody has seen a hyperactive child become addicted to methylphenidate, he certainly has not reported it."[38] Harlin concurs that "no harmful results and no addictions have been seen in children on the medications for several months or years, and no withdrawal symptoms have been reported when the drug is discontinued."[39] Relative to drug discontinuance, Kinsbourne continues:

> Perhaps because the relevant brain areas fully mature, or perhaps because after leaving school people have more freedom in choosing what to do, hyperactivity becomes less obvious during adolescence and treatment usually is terminated some time

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around then.[40]

There are those, however, that advise against the too frequent use of drugs to treat hyperkinesis. In fact, even Kinsbourne cautions that "stimulant therapy can be a cop-out by poor teachers and sloppy clinicians and a smoke screen to divert attention from social injustice."[41] Harold Martin similarly cautions:

> ... we are suggesting that a significant portion of children about whose hyperactive behavior adults complain have had developmental hyperactivity since birth. These children may be difficult to live with. The preferred mode of therapy is to help the parents live with such a child's personality--rather than to artificially change the given behavior repertoire with which he entered extrauterine life. Drug management will have little place with this type of child.[42]

Further, Dr. Herbert Rie told a recent meeting of the American Medical Association's House of Delegates that twice as many children are being given drugs for hyperactivity should be and that these drugs are administered "for the benefit of teachers and parents who simply want to control unruly children."[43]

Even the effectiveness of drug therapy for hyperkinesis has been questioned. Reece states:

> Studies show that children with minimal brain dysfunction have a rather compromised long-term prognosis (despite their decreased hyperactivity) due to social and intrapsychic difficulties, as well as learning disorders. A significant number of them make poor adjustments to living. Those who are well adjusted usually had higher initial I.Q.s.[44]

In support of Reece's comments is the conclusion of a review of the literature by two other researchers who state:

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> The only available studies in which hyperactive children have been followed from the time that they entered a psychiatric clinic, usually between the ages of eight and 11, to when they are in junior high or high school suggest that the outlook for children treated primarily with drugs is relatively poor. In their teens these children were still having trouble in their families, often behaving antisocially, and presenting academic and behavior problems in school.... We can only conclude that the long-range effects of drug treatment are generally modest.[45]

The explanation behind this conclusion is an interesting one. These researchers continue:

> Current research on 'state dependent learning' suggests that some habits learned while the subject is under the influence of drugs or alcohol do not carry over into the subject's behavior while he is sober or undrugged. Another common assumption about the use of drugs is that they will "help the child do better in school." Successfully treated children do more of their assigned work in class, but one may question whether this is a truly important goal; doing assigned work is not the same as learning.[46]

It has also been suggested that when the child is drugged to improve his behavior, he has a cop-out for attempting to control himself, and that the parents have an excuse for not concentrating on their child-rearing responsibilities.

A startling discovery has recently been made which, if supported in subsequent research investigations, could lead to a new form of drug therapy for hyperkinesis. This form of drug treatment, however, requires the elimination of a drug rather than an administration of a drug. At the 1974 meeting of the American Medical Association in Chicago, Dr. Ben Feingold reported on evidence showing a link between artificial food colors and flavors and the development of hyperkinesis. When these food additives were eliminated from the diets of children who were hyperkinetic, "favorable and dramatic improvement in their behavior was found in

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nearly half the group. When the additives were returned to their diet, these children again showed the same patterns of unruly aggressive behavior that many exhibited since infancy.[47] The natural food advocates may have won another victory.

Other Treatments

Drug therapy is only one treatment that has been proposed and used for hyperkinesis. Other treatments have included controlling the environment in such a way as to be structured, firm, definite, and nonpermissive. It has been suggested that "children lacking internal controls need external controls which are firm, nonpunitive and definite."[48]

Schaefer has found that "bringing parents together to discuss ways of handling specific problems in child management enhances their ability to cope with difficult children, builds their self-confidence, and improves the relations between parents and their children."[49]

Behavior modification, basically rewarding desirable behavior and either ignoring or punishing undesirable behavior, is another method of treating the hyperkinetic child. The effectiveness of the procedure, however, has not been adequately demonstrated.

Though some proclaim a teacher surplus, others applaud the abundance of teachers and suggest these teachers be used to greater individualize instruction. Smaller teacher-pupil ratios, a result of greater numbers of teachers and decreasing school enrollment, can be employed as a way of responding and treating the hyperkinetic child. With more individualized attention, the child can be expected to be more responsive in the learning environment.

Lastly, I submit that hyperkinetic syndrome has been viewed too narrowly. That there are associated problems too often ignored. That though the child might improve his behavior in school, the real goals of

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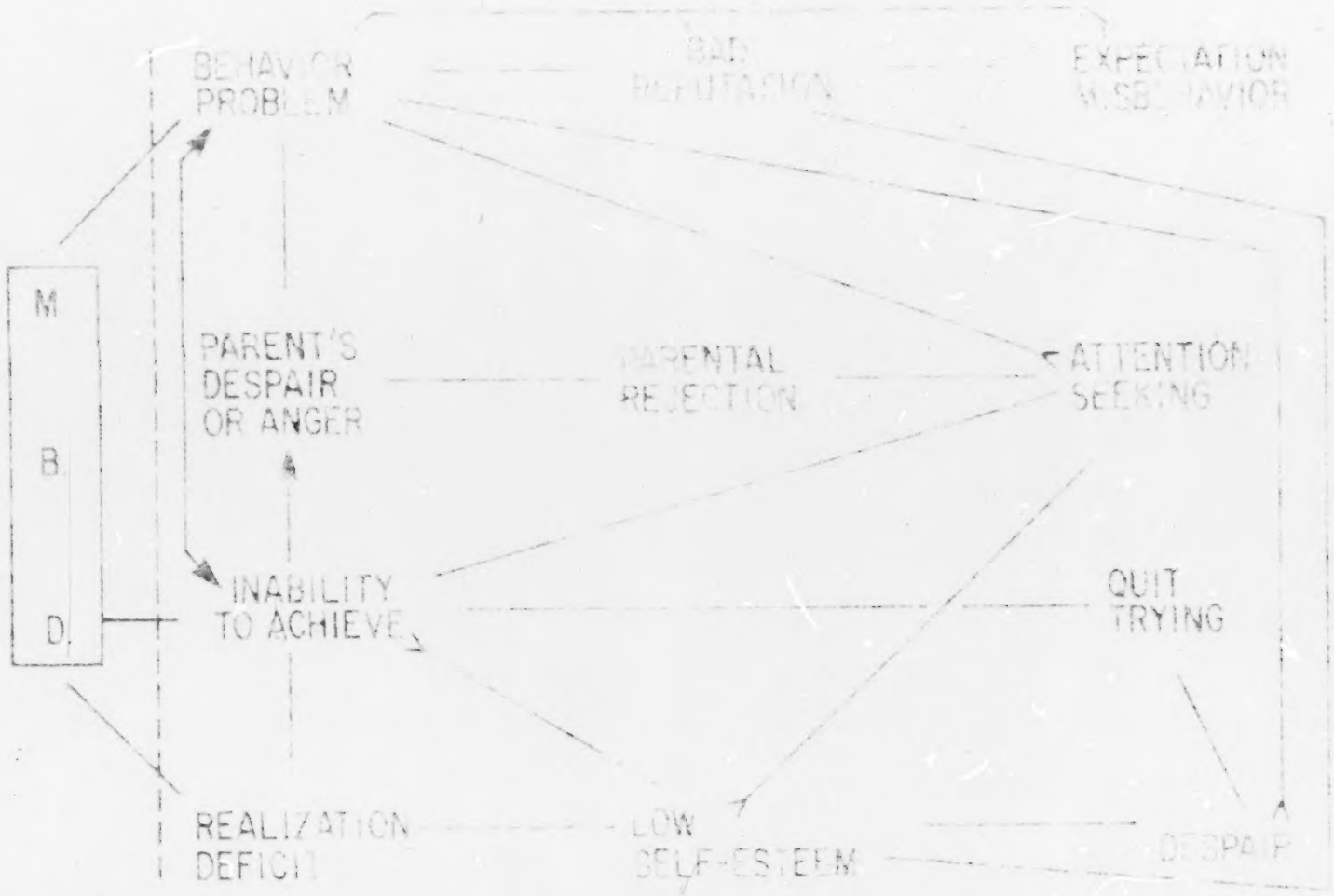
school; i.e. a love of learning, knowledge of the scientific method for problem solving, an appreciation of oneself, and the ability to interact well with others; remain unachieved. Arnold describes these problems well in the accompanying chart. Perhaps Arnold's own words should be used to elaborate upon the chart.

> Note that once this psychosocial-educational vicious cycle is set in motion, the original handicap is no longer needed to maintain it. The child can outgrow the original neurophysiological deficit (as shown by the dotted line) but continue to show much the same picture as before, the symptoms being maintained by the feedback systems. In such a child, medication is neither necessary nor sufficient. The proper approach is to break up the vicious cycle at several points.
>
> For example, if through tutoring, remedial reading, or other educational aids, the child can experience some little success in school, this may result in higher self-esteem, less need for attention-getting misbehavior, and less despair. With less despair, he will be more motivated to try even harder, and experience even more success. With alleviation of the attention-getting behavior, his parents may find him more tolerable and become more accepting.[50]

Conclusion

The point being made here is that the use of drugs to calm kids is useful to a point. However, in addition to drugs, the educator, parent, and physician should be aware of and concerned with associated problems. Problems whose effects, if disregarded, will linger long past the life of the hyperkinesis. Problems such as bad reputations (remember the discussion of self-fulfilling prophecy), parental rejection, inability to achieve, despair, and low self-esteem are conditions to which the educator can respond. Situations can be organized in the school to raise self-esteem,[51] to alleviate despair and anger, and to provide attention to the hyperkinetic child for appropriate, socially-acceptable behavior.

COMPLEX VICIOUS CYCLE *
ORIGINATED BY MINIMAL BRAIN DYSFUNCTION



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* L. Eugene Arnold "Is Treatment Necessary?" The Journal of School Health, Vol. 43, October, 1973 p 513.

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The questions are many, the answers unclear, but one inference can be drawn from the literature. That inference is that more than just the physician is needed to respond effectively to the hyperkinetic child. A team consisting of the teacher, parent, physician, and perhaps siblings is required.

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